DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 13.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-006959
Date Inspected: 26-May-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Oregon Iron Works Clackamas, Or.

OSM Arrival Time: 1400
OSM Departure Time: 2230
Location: Clackamas, Oregon

CWI Name:	Steve Barnett			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Hinge K Pipe Beams

Summary of Items Observed:

On this date, Caltrans Quality Assurance Inspector (QA) Sherri Brannon is present at the Oregon Iron Works, Inc. (OIW) jobsite in Clackamas, Oregon for the purpose of observing fabrication of the Hinge K Pipe Beams.

OIW Fabrication Shop-Bay 3 (sub-assembly):
QA Inspector Brannon randomly observed OIW qualified welder Mr. Mikhail Bannikov ID#B28 and one helper tack welding joining stiffener ring MK #a125 (HPS 485 W) to hinge K pipe beam half section MK#a124-1 (HPS 485 W). The partial joint penetration (PJP) groove weld is identified as weld joint #WM3-12. Mr. Bannikov was observed welding in the 1G (flat) position utilizing flux cored arc welding (FCAW) process with a 1.3mm diameter electrode, filler metal brand Select Arc class select E91T1-NilC-H4 semi-automatic. QA Inspector Brannon observed the OIW QC CWI Inspector Mr. Steve Bennett verifying that the pre-heat and welding parameters were in accordance with the Procedure Specification (WPS). Welding parameters measured by QA are as follows: 275 amps and 27.0 volts Welding appear to be in conformance with approved welding procedure specification WPS 3049 revision number 1.

OIW Fabrication Shop-Bay 3 (sub-assembly):
QC Inspector Mr. Steve Barnett and QA Inspector Brannon preformed fit-up inspection joining stiffener ring MK #a125 (HPS 485 W) to hinge K pipe beam half section MK#a124-1 (HPS 485 W). The partial joint penetration (PJP) groove weld is identified as weld joint #WM3-12. Fit-up appears to be within the 5mm max gap tolerance.

OIW Fabrication Shop-Bay 3 (sub-assembly):
QA Inspector Brannon randomly observed OIW qualified welder Mr. Mikhail Bannikov ID#B28 and one helper

welding root/fill pass's joining stiffener ring MK #a125 (HPS 485 W) to hinge K pipe beam half section MK#a124-1 (HPS 485 W). The partial joint penetration (PJP) groove weld is identified as weld joint #WM3-12. Mr. Bannikov was observed welding in the 1G (flat) position utilizing submerged arc welding (SAW) process with a 2.4mm diameter electrode, filler metal brand Lincoln Electric LA85 class F9A4-Eni5-G-H2. QA Inspector Brannon observed the OIW QC CWI Inspector Mr. Steve Bennett verifying that the pre-heat of 350°F and welding parameters were in accordance with the Welding Procedure Specification (WPS). Welding parameters measured by QA are as follows for root/fill: 400/585 amps, 27.0/35.0 volts and a travel speed of 306/457 mm per minute respectively appear to be in conformance with approved welding procedure specification WPS 4020 revision number 1.

QC/QA Inspection (VT/MT):
QA Inspector Brannon observed QC Inspector Mr. Steve Barnett perform visual inspection (VT) and magnetic particle testing (MT) cover pass at hinge k pipe beam fuse splice section 120A-5 (HPS 485 W) weld joint WM3-18 complete joint penetration (CJP) weld. QA Inspector Brannon also, performed visual inspection (VT) and magnetic particle testing (MT) cover pass at hinge k pipe beam fuse splice section 120A-5 (HPS 485 W) weld joint WM3-18 complete joint penetration (CJP) weld. See Caltrans Magnetic Particle Test Report, TL-6028 dated May 26, 2009 for additional information.

OIW Fabrication Shop-Bay 3 (sub-assembly):
QA Inspector Brannon observed no production activity on Hinge K Pipe Beam sub assemblies noted below for the duration of the shift.
Hinge-K Pipe Beam Sub Assembly, MK#102A-1 - MK#a111-1 forging to MK#a110-1 base plate idle.
Hinge-K Pipe Beam Sub Assembly, MK#102A-4 - MK#a111-4 forging to MK#a110-4 base plate idle.
Note: QA Inspector Brannon also, observed pending critical welding repair (CWR-2244-003) at Mk#102A-1 weld joint W2-13.
Hinge-K Pipe Beam Sub Assembly, MK#120A-2 – MK#a124-3 half fuse to MK#a124-11 half fuse.
Note: Inspector Brannon also, observed pending 3rd time repair critical welding repairs (CWR-2244-005) at Mk#120A-2 weld joint WM3-18.

OIW Storage Yard
Hinge-K Pipe Beam Sub Assembly, MK#102A-2 - MK#a111-2 forging to MK#a110-2 base plate idle.
Hinge-K Pipe Beam Sub Assembly, MK#102A-3 - MK#a111-3 forging to MK#a110-3 base plate idle.
Note: QA Inspector Brannon also, observed pending repairs for MK#102A-2 weld joint W2-13 and MK#102A-3 weld joint W2-13 both have pending 1st time UT repairs.

Caltrans Status and Production Tracking:
QA Inspector Brannon also updated Caltrans status and production tracking logs for tracking of check samples, procedure qualification record (PQR), critical weld repairs (CWR), non-critical welding repairs (WRR), completed and in process welding, QC/QA non-destructive testing.

Material, Equipment, and Labor Tracking:
QA Inspector Brannon performed a verification of personnel at OIW. QA Inspector Brannon observed 1 Supervisor, 1 Quality Control and 2 production personnel on this date.

WELDING INSPECTION REPORT

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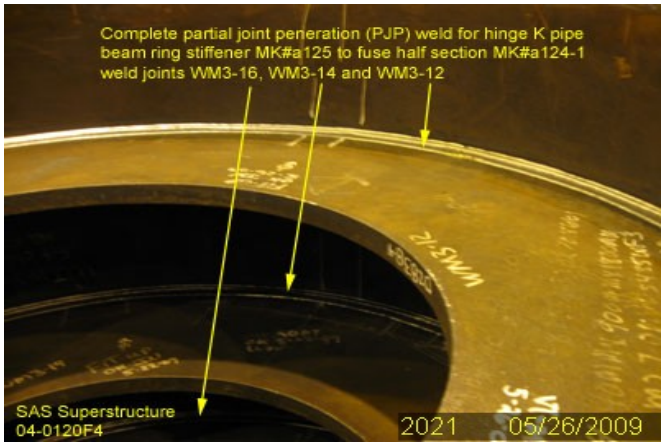
The following digital photograph below illustrates observation of the activities being performed.



Summary of Conversations:

As noted within this reprot.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Brannon,Sherri	Quality Assurance Inspector
Reviewed By:	Adame,Joe	QA Reviewer